



Docket No.: 9988.057.00  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
In Hee Han

Customer No.: 30827

Application No.: 10/660,732

Confirmation No.: 2748

Filed: September 12, 2003

Art Unit: 3749

For: STRUCTURE OF MOTOR SHAFT IN  
CLOTHES DRYER

Examiner: Stephen M. Gravini

**MS Appeal Brief - Patents**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPELLANTS' BRIEF**

Sir:

In response to a Final Rejection mailed on August 8, 2007, which the Examiner issued in response to Appellants' Appeal Brief of June 12 2007, which addresses the Examiner's Final Rejection of November 14, 2007 and Advisory Action of March 28, 2007, Appellants hereby submit this Appeal Brief. Appellants initiated a new appeal by filing a Notice of Appeal on November 8, 2007, as set forth in MPEP 1207.04.

The fees required under § 1.17(f) and any required petition for extension of time for filing this brief and fees therefore are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37(c):

- I. Real Party In Interest**
- II. Related Appeals and Interferences**
- III. Status of Claims**

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**IV. Status of Amendments**

**V. Summary of Claimed Subject Matter**

**VI. Grounds of Rejection to be Reviewed on Appeal**

**VII. Argument**

**VIII. Conclusion**

**Claims Appendix**

**Evidence Appendix**

**Related Proceedings Appendix**

**I. REAL PARTY INTEREST**

The real party in interest for this appeal is: LG Electronics Inc.

**II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

**III. STATUS OF CLAIMS**

Total Number of Claims in the Application.

There is one claim pending in this application.

Current Status of Claims:

Claims canceled: 1-8 and 10.

Claims withdrawn from consideration but not canceled: None.

Claims pending: Claim 9.

Claims allowed: None.

Claims rejected: Claim 9.

Claims on Appeal: The claim on appeal is claim 9.

#### **IV. STATUS OF AMENDMENTS**

An Amendment was filed on February 12, 2007, which was not entered, as indicated in the first Advisory Action mailed March 5, 2007. A second Amendment was filed on March 14, 2007, canceling claims 1-8 and 10. A second Advisory Action, mailed on March 28, 2007, indicates that the March 14th Amendment will be entered. A Notice of Appeal was then filed on April 16, 2007, followed by an Appeal Brief on June 12, 2007. In response, the Examiner reopened prosecution and issued another Final Rejection, including a new ground of rejection, on August 8, 2007. A second Notice of Appeal was then filed on November 8, 2007. Accordingly, claim 9 is the only claim pending, which is reflected in the Claims Appendix.

#### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The claimed invention is directed to easily dismounting a fan from a motor, for instance, in laundry dryer. As shown in Fig. 2, in a conventional laundry dryer, to dismount a fan 40 from a motor 50, a nut N must be unfastened. While the nut N is being unfastened, however, the shaft 500 rotates with the nut N hindering the nut N from being unfastened. Accordingly, it is difficult to dismount the fan 40 from the motor 50.

As shown in Fig. 4, the claimed invention provides a laundry dryer having a motor bracket 53 fixed to a bottom of the dryer (see, for example, Fig 1), where a motor 50 is mounted on the motor bracket 53, the motor 50 including a motor shaft 500 extending therefrom, and a fan 40 coupled with the motor shaft 500. Paragraph [0028]. The motor shaft 500 includes chamfers (see, for example, Fig. 5, 500a) parallel to each other and configured for facilitating removal of the fan from the motor shaft. Paragraphs [0028]-[0032].

**VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**(A) Whether claim 9 is properly rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.**

**(B) Whether claim 9 is properly rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 2,547,238 (hereinafter *Tremblay*) in view of U.S. Patent No. 5,664,936 (hereinafter *Cunha*).**

**(C) Whether claim 9 is properly rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,874,248 (hereinafter *Hong*) in view of either U.S. Patent No. 3,264,016 (hereinafter *Torborg*), U.S. Patent No. 3,264,016 (hereinafter *Reisch*), and/or U.S. Patent No. 5,664,936 (hereinafter *Cunha*).**

**VII. ARGUMENT**

**(A) The Examiner improperly rejected claim 9 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.**

In setting forth the rejection, the Examiner asserts that the recitation of “a motor shaft includes chamfers parallel to each other” in claim 9 is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. *See Office Action at page 2.* Nevertheless, the Examiner admits that Figure 5 shows a section of a motor shaft from Figure 3, but states that there is no specification discussion such that it would be reasonable to convey the parallel feature. *See Office Action at page 2.*

Appellants traverse the Examiner’s allegations. Support for at least a motor shaft that includes chamfers parallel to each other, as recited in claim 9, can be found in at least paragraphs [0028]-[0033] of Appellants’ original specification, as well as Figures 4-5.

As an illustrative example, Appellants submit that paragraph [0032] discloses the following: “ In this instance, since the motor shaft 500 of the present invention has the chamfered parts 500a in the shaft, the chamfered parts 500a can be clamped with a tool, such as a

spanner, to prevent the motor shaft from turning....” First of all, the inclusion of the reference number 500a clearly indicates that an illustration of the corresponding element (chamfered parts) accompanies the discussion of this element. In this case, the reference number 500a is clearly illustrated in Figure 5 as parallel chamfers of a motor shaft. Additionally, Appellants’ written description indicates that Figure 5 illustrates a section of a motor shaft across line II-II of Figure 4. See Appellants’ specification, for example, at paragraphs [0024] and [0028]. Thus, when reading paragraph [0032] in context (e.g., Figure 5), it becomes readily apparent that the motor shaft 500 includes chamfers parallel to each other, as recited in claim 9. Furthermore, Appellants’ paragraph [0032] indicates that “the chamfered parts 500a can be clamped with a tool, such as a spanner.” It is recognized that most spanners (e.g., a wrench) typically have jaws of parallel surfaces. Taking this into consideration, to be able to “clamp” two chamfered parts with a spanner, it is recognized that the chamfered parts would have to be parallel. For at least each of the reasons discussed above, claim 9 is fully supported by the specification. Moreover, Appellants’ specification has written support for these claimed features in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Therefore, the rejection under 35 U.S.C. § 112, first paragraph, is improper and should be reversed.

**(B) The Examiner improperly rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over *Tremblay* in view of *Cunha*.**

As required in Chapter 2143.03 of the M.P.E.P., in order to establish *prima facie* obviousness of the claimed invention, all the limitations must be taught or suggested by the prior art. However, *Tremblay* and *Cunha*, taken singularly or in combination, fail to disclose or suggest each and every element recited in claim 9.

In setting forth the rejection, the Examiner admits that *Tremblay* does not disclose “the claimed fan coupled with the motor shaft, wherein the motor shaft includes chamfers parallel to each other and configured for facilitating removal of the fan from the motor shaft.” See *Office Action at pages 2-3*. Thus, the Examiner relies upon *Cunha* to supply the deficiencies of *Tremblay*. Specifically, the Examiner asserts that *Cunha* discloses these claimed features at Figures 3 & 4 and column 2, lines 46-67. Again, Appellants traverse the Examiner’s assertions, as the Examiner is simply wrong.

A close inspection of column 2, lines 46-67 and Figures 3-4 reveals that *Cunha* discloses securing a fan to a shaft. According to *Cunha*, Figures 3-4 illustrate an arrangement for mounting a pair of fans to a motor, in which the fan mounting arrangement is made by fitting a corresponding tubular central hub 10 to an adjacent shaft end 20. Specifically, *Cunha* discloses an engaging recess 21 of a shaft end 20, which is coupled to an engaging projection 11 of the fan’s central hub 10. However, the engagement recess 21 is not “configured for facilitating removal of the fan from the motor shaft,” as recited. Rather, the engaging recess 21 in the shaft is the means by which the fan is fixedly mounted to the shaft. That is, *Cunha*’s disclosure of an engaging recess 21 teaches away from the claimed chamfers, which are “configured for facilitating removal of the fan from the motor shaft.”

In addition, *Cunha* does not disclose, *inter alia*, a motor shaft that includes “chamfers parallel to each other,” as recited in claim 9. As noted above, the Examiner relies upon the embodiment depicted in Figures 3 and 4 of *Cunha*. As illustrated, the central hub 10, as disclosed by *Cunha*, contains only a single engaging projection 11, 12. As such, it is clear that the shaft end 20, as depicted in Figure 3 of *Cunha*, includes only a single, corresponding engaging recess 21 provided in the beveled region of the shaft end 20. Thus, in *arguendo*, the engaging recess 21 itself cannot possibly be construed to be “chamfers parallel to each other.” In other words, *Cunha* fails to disclose or suggest “chamfers” parallel to each other.

Furthermore, *in arguendo*, Appellants submit that the “beveled region of the shaft end,” as disclosed in *Cunha* at column 2, lines 66–67 and Fig. 3, fails to anticipate “chamfers parallel to each other.” More specifically, *Cunha* discloses that the beveled region on shaft end 20 has a “semi circular shape.” *See Cunha at column 2, lines 27–28.* However, *Cunha*’s disclosure of a beveled region of a shaft having a semi-circular shape cannot possibly be construed as chamfers that are parallel to each other. Parallel chamfers would give the shaft two parallel flat sides, not a semi-circular shape.

Therefore, the rejection under 35 U.S.C. §103(a) as being unpatentable over *Tremblay* in view of *Cunha* is improper and should be reversed.

**(C) The Examiner improperly rejected claim 9 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of *Hong* in view of either *Torborg*, *Reisch*, and/or *Cunha*.**

In setting forth the rejection, the Office admits that *Hong* does not disclose “the claimed chamfer portion.” *See Office Action at page 4.* In addition, without providing any support, evidence and/or reasoning, the Examiner further asserts that “it would have been obvious to one skilled in the art to combine chamfer portion, construed disclosed by *Torborg*, *Reisch* and/or *Cunha*” *See Office Action at page 4.* That is, the Examiner relies upon *Torborg*, *Reisch*, and/or *Cunha* for curing the shortcomings of *Hong*, but does not point to any portion of any of these references for these alleged teachings. Further, Appellants can find no teaching of Appellants’ claimed features in *Torborg*, *Reisch*, and/or *Cunha*, individually or in combination. Taking these things into consideration, Appellants are led to believe that the Examiner is unable to rely on any portion of *Torborg*, *Reisch*, and/or *Cunha* because these references, taken singularly or in combination, do not disclose the claimed chamfers, as recited in Appellants’ claims.

More specifically, *Torborg* teaches a blower drive shaft 34 that may include an annular groove 35 and a single flat surface 33. See *Torborg*, for example, at Figure 5 and column 3, lines 53–57. However, the annular groove 35, as disclosed by *Torborg*, cannot possibly be construed to be a chamfer, as recited in Appellants’ claims. As disclosed by *Torborg*, a central hub portion 48 of the blower wheel...and one or more resilient arms snap-fit into the annular groove 35 in the blower drive shaft 34 and retain the blower wheel 46 on the drive shaft 34. See *Torborg* at column 3, lines 53–62. That is, the annular groove 35 is not “configured for facilitating removal of the fan from the motor shaft.” In addition, Appellants submit that *Torborg* is also deficient at least since *Torborg* does not teach another annular groove to which annular groove 35 is parallel, and which is “configured for facilitating removal of the fan from the motor shaft,” as recited.

Similarly, *in arguendo*, even if one were to unreasonably interpret the flat surface 33 of *Torborg* as being a chamfer, Appellants submit that *Torborg* would still be deficient at least since *Torborg* would still fail to teach another flat surface to which it can be parallel. Furthermore, *Torborg* fails to teach chamfers between the fan and the motor. Instead, *Torborg* teaches that the flat surface 33 is located at the distal end of the shaft inside the blower housing (*i.e.*, fan). See *Torborg* at column 3, lines 53–57. The flat surface 33 taught by *Torborg* cannot be located between a fan and a motor. Thus, Appellants submit that *Torborg* does not disclose or suggest, *inter alia*, a motor shaft that includes chamfers, as recited in claim 9.

*Reisch* discloses a hub and shaft coupling, and thus discloses “a pair of grooves 68 and 70 formed on opposites sides of the end of the shaft.” See *Reisch* at column 5, lines 55–57. The grooves 68, 70 are not “configured for facilitating removal of the fan from the motor shaft.” In contrast, *Reisch* discloses that latches 56 and 58 are formed inwardly extending lock portions 64 and 66 to mate with the grooves 68 and 70.” As such, the lock portions 64 and 66 are firmly



engaged with the grooves in the shaft to prevent removal of the hub from the shaft. The grooves, disclosed by *Reisch*, do not facilitate in the removal of the fan from the motor shaft, as required by claim 9.

Additionally, in *Reisch*, the grooves 68 and 70 are not between the fan and the motor. They are disposed on the shaft where the fan engages the shaft. This is because the fan itself engages the shaft at grooves 68 and 70. See *Reisch* at Figure 16.

Appellants submit that *Cunha* fails to disclose the claimed chamfers, as recited in claim 9, for at least each of the reasons submitted in Appellants' arguments presented in section (B) of this Appeal Brief.

Therefore, the rejection under the judicially created doctrine of obviousness-type double patenting is improper and should be reversed.

**VII. CONCLUSION**

For at least each of the reasons discussed above, Appellants submit that the rejections set forth in the Final Rejection of August 8, 2007 are improper and should be reversed. Claim 9 is improperly rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claim 9 is improperly rejected under 35 U.S.C. §103(a) as being unpatentable over *Tremblay* in view of *Cunha*. Furthermore, claim 9 is improperly rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of *Hong* in view of *Torborg*, *Reisch*, and/or *Cunha*.

The Honorable Board is requested to reverse the rejections set forth in the final Office Action and direct the Examiner to pass this application to issue.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: January 8, 2008

Respectfully submitted,

By 

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Attachments



**CLAIMS APPENDIX**

**Claims Involved in the Appeal of Application Serial No. 10/660,732**

1-8. (Canceled)

9. (Previously Presented) A laundry dryer comprising:

a motor bracket fixed to a bottom of the dryer;

a motor mounted on the motor bracket, the motor including a motor shaft extending therefrom; and

a fan coupled with the motor shaft, wherein the motor shaft includes chamfers parallel to each other and configured for facilitating removal of the fan from the motor shaft.

10. (Canceled)

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**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.